



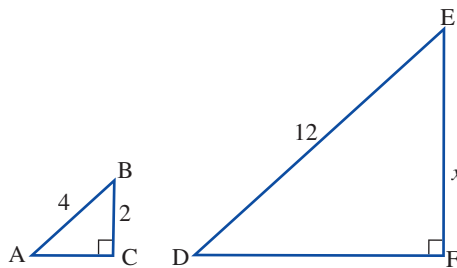
### SKILLSHEET 11.3

## Similar triangles

In similar triangles, lengths of the corresponding sides are always in the same ratio. This ratio (that is, the scale factor for the length) can be used for calculating unknown side lengths, as shown in the worked example below.

### WORKED EXAMPLE

The triangles shown below are similar. Find the value of the pronumeral.



#### THINK

- 1 Triangles ABC and DEF are similar.
- 2 Find the scale factor.
- 3 Use the scale factor to find the value of EF.

#### WRITE

$$\triangle ABC \sim \triangle DEF$$

$$\text{Scale factor} = \frac{DE}{AB}$$

$$\text{Scale factor} = \frac{12}{4}$$

$$\text{Scale factor} = 3$$

$$EF = \text{Scale factor} \times BC$$

$$x = 3 \times 2$$

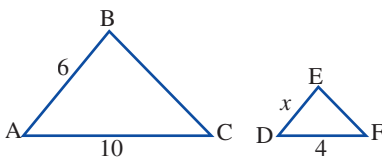
$$= 6$$

The value of the pronumeral is 6.

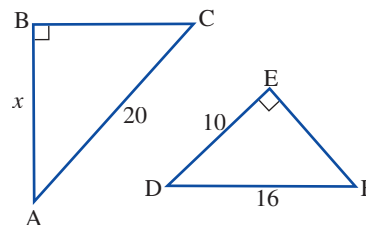
### Try these

In each diagram, the triangles shown are similar. Find the value of the pronumeral in each case.

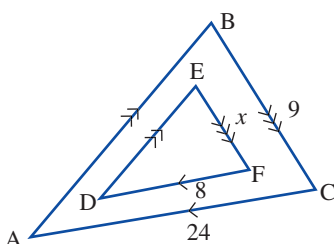
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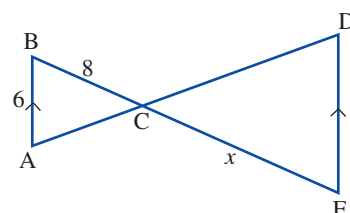
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3

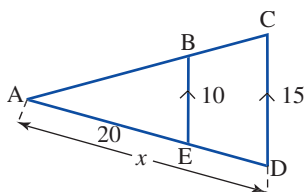


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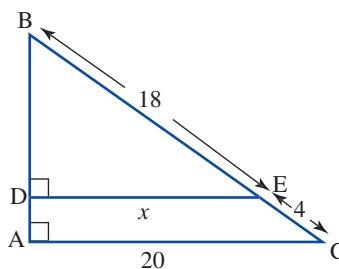




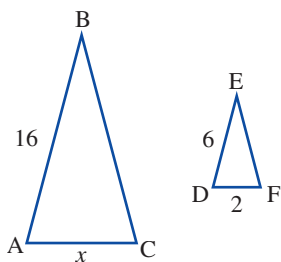
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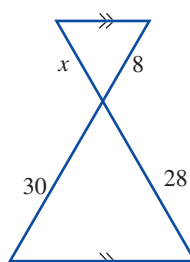
6



7



8



## SKILLSHEET — ANSWERS

### SKILLSHEET 11.3

#### Similar triangles

1 2.4

3 3

5 30

7  $5\frac{1}{3}$

2 12.5

4 12

6  $16\frac{4}{11}$

8  $7\frac{7}{15}$